



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

46915 7590 02/02/2010

KONRAD RAYNES & VICTOR, L.P.
ATTN: INT77
315 SOUTH BEVERLY DRIVE, SUITE 210
BEVERLY HILLS, CA 90212

EXAMINER

ZHOU, YONG

ART UNIT

PAPER NUMBER

2477

DATE MAILED: 02/02/2010

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/787,074	02/19/2004	Michele C. Clayton	P17730	2852

TITLE OF INVENTION: GENERATING TOPOLOGY INFORMATION IDENTIFYING DEVICES IN A NETWORK TOPOLOGY

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	05/03/2010

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. **PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN **THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE** OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. **THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: Mail **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
 or Fax **(571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

46915 7590 02/02/2010

KONRAD RAYNES & VICTOR, L.P.
ATTN: INT77
315 SOUTH BEVERLY DRIVE, SUITE 210
BEVERLY HILLS, CA 90212

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/787,074 02/19/2004

Michèle C. Clayton

P17730

2852

TITLE OF INVENTION: GENERATING TOPOLOGY INFORMATION IDENTIFYING DEVICES IN A NETWORK TOPOLOGY

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	05/03/2010

EXAMINER	ART UNIT	CLASS-SUBCLASS
ZHOU, YONG	2477	370-254000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. Use of a **Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
- 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY AND STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/787,074

02/19/2004

Michele C. Clayton

P17730

2852

46915

7590

02/02/2010

EXAMINER

ZHOU, YONG

ART UNIT

PAPER NUMBER

2477

DATE MAILED: 02/02/2010

KONRAD RAYNES & VICTOR, L.L.P.
ATTN: INT77
315 SOUTH BEVERLY DRIVE, SUITE 210
BEVERLY HILLS, CA 90212

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 573 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 573 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability**Application No.**

10/787,074

Examiner

Yong Zhou

Applicant(s)

CLAYTON, MICHELE C.

Art Unit

2477

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to an amendment filed 1/6/2010.
2. ☒ The allowed claim(s) is/are 1-4, 6, 9-13, 15, 16, 18-24, 26, 27 and 29, renumbered 1-22.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
(a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
(b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

/Chirag G Shah/
Supervisory Patent Examiner, Art Unit 2477

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. David Victor on January 19, 2010.

2. The application has been amended as follows:

11. (Currently Amended) A system in communication with at least one remote device, wherein each remote device includes at least one remote interface and remote topology information, comprising:

at least one local interface;

circuitry ~~capable of causing~~ performing operations ~~to be performed~~, the operations comprising:

generating local topology information including information on local interfaces and remote interfaces in at least one downstream remote device that connect to the local interfaces identified in the local topology information, wherein the at least one downstream remote device comprises an end device or expander connecting to further end devices or expanders to which the local interfaces connect, wherein the local device is directly connected to the remote

device, and wherein the local device, remote device, and other downstream devices directly and indirectly attached to the remote device are connected using a serial network technology;

for each connected remote interface, determining a device type of the downstream remote device including the remote interface; and

for each local interface attached to one remote interface in one of the downstream remote devices whose determined device type is of a specified device type, initiating communication with the remote interface to access remote topology information from the downstream remote device indicating downstream devices attached directly and indirectly to the remote device, wherein the downstream devices with respect to the remote device comprise an end device or expander connecting to further end devices or expanders to which the remote device connects, and wherein the communication with the remote device to access the remote topology information comprises sending only one discovery request to the remote device to cause the remote device to gather the remote topology information indicating downstream devices attached directly and indirectly to the remote device, to periodically check whether the gathering of the remote topology information has completed and to return the remote topology information to the local interface in response to determining that the gathering has completed.

16. (Currently Amended) A system in communication with at least one remote device and one upstream device, wherein each remote device includes at least one remote interface and remote topology information, comprising:

at least one local interface;

circuitry ~~capable of causing performing operations to be performed~~, the operations comprising:

receiving a request comprising only one discovery request for remote topology information from the upstream device, wherein the remote topology information includes information on the at least one local interface and remote devices in communication with the at least one local interface;

periodically checking whether the remote topology information is completed, wherein the remote topology information is completed if the remote topology information

indicates information on downstream devices to which the remote device is directly and indirectly connected; and

transmitting the remote topology information to the upstream device in response to determining that the remote topology information is completed, wherein the one discovery request causes the circuitry to perform the periodically checking and transmitting of the remote topology information indicating the downstream devices directly and indirectly connected to the remote device, wherein the at least one local interface is directly connected to the upstream device, and wherein the upstream device, the at least one local interface, and the

downstream devices are directly and indirectly attached to the at least one local interface are connected using a serial network technology.

19. (Currently Amended) A system in communication with at least one remote device, wherein each remote device includes at least one remote interface and remote topology information, comprising:

at least one local interface;

a motherboard;

circuitry integrated with the motherboard ~~capable of causing performing~~
operations ~~to be performed~~, the operations comprising:

generating local topology information including information on the at least one local interface and remote interfaces in at least one downstream remote device that

connect to the local interfaces identified in the local topology information, wherein the at least one downstream remote device comprises an end device or expander connecting to further end devices or expanders to which the local interfaces connect, wherein the local device is directly connected to the remote device, and wherein the local device, remote device, and other downstream devices directly and indirectly attached to the remote device are connected using a serial network technology;

for each connected remote interface, determining a device type of the one downstream remote device including the remote interface; and

for each local interface attached to one remote interface in one of the downstream remote devices whose determined device type is of a specified device type, initiating communication with the remote interface to access remote topology information from the downstream remote device indicating downstream devices attached directly and indirectly to the remote device, wherein the downstream devices with respect to the remote device comprise an end device or expander connecting to further end devices or expanders to which the remote device connects, and wherein the communication with the remote device to access the remote topology information comprises sending only one discovery request to the remote device to cause the remote device to gather the remote topology information indicating downstream devices attached directly and indirectly to the remote device, to periodically check whether the gathering of the remote topology information has completed and to return the remote topology information to the local interface in response to determining that the gathering has completed.

22. (Currently Amended) An article of manufacture in communication with at least one remote device, each remote device having at least one interface, wherein the article of manufacture is ~~capable of causing~~ performing ~~operations to be performed~~, the operations comprising:

generating local topology information including information on local interfaces and remote interfaces in at least one downstream remote device that connect to the

local interfaces identified in the local topology information, wherein the at least one downstream remote device comprises an end device or expander connecting to further end devices or expanders to which the local interfaces connect, wherein the local device is directly connected to the remote device, and wherein the local device, remote device, and other downstream devices directly and indirectly attached to the remote device are connected using a serial network technology;

for each connected remote interface, determining a device type of the one downstream remote device including the remote interface; and

for each local interface attached to one remote interface in one of the downstream remote devices whose determined device type is of a specified device type, initiating communication with the remote interface to access remote topology information from the downstream remote device indicating downstream devices attached directly and indirectly to the remote device, wherein the downstream devices with respect to the remote device comprise an end device or expander connecting to further end devices or expanders to which the remote device connects, and wherein the communication with the remote device to access the remote topology information comprises sending only one discovery request to the remote device to cause the remote device to gather the remote topology information indicating downstream devices attached directly and indirectly to the remote device, to periodically check whether the gathering of the remote topology information has completed, and to return the remote topology information to the local interface in response to determining that the gathering has completed.

27. (Currently Amended) An article of manufacture in communication with at least one local interface, with at least one remote device and an upstream device, wherein each remote device includes at least one remote interface and remote topology information, wherein the article of manufacture is ~~capable of causing performing~~ operations ~~to be performed~~, the operations comprising:

receiving a request comprising only one discovery request for remote topology information from the upstream device, wherein the remote topology information includes information on the at least one local interface and remote devices in communication with the at least one local interface;

periodically checking whether the remote topology information is completed, wherein the remote topology information is completed if the remote topology information indicates information on downstream devices to which the remote device is directly and indirectly connected; and

transmitting the remote topology information to the device in response to determining that the remote topology information is completed wherein the one discovery request causes the periodically checking and transmitting of the remote topology information indicating the downstream devices directly and indirectly connected to the remote device, wherein the at least one local interface is directly connected to the upstream device, and wherein the upstream device, the at least one local interface, and the downstream devices are directly and indirectly attached to the at

least one local interface are connected using a serial network technology.

Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yong Zhou whose telephone number is 571-270-3451. The examiner can normally be reached on Monday - Friday 8:00am - 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chirag G. Shah can be reached on 571-272-3144. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Y. Z./
Yong Zhou
Examiner, Art Unit 2477

January 19, 2010

Application/Control Number: 10/787,074
Art Unit: 2477

Page 10

/Chirag G Shah/

Supervisory Patent Examiner, Art Unit 2477